FLORAL PHOTO FRAME DESIGN FREE INSIDE

Hobbies WEEKLY

March 29th. 1944 | Price Twopence | Vol. 97. No. 2528

A splendid model to make of an ARMOURED TRUCK

THE attractive little model shown can be made from a few pieces of $\frac{1}{8}$in. fretwood and a piece or two of fairly stout card. Its length is $5\frac{3}{4}$ins., width $2\frac{5}{8}$ins. and height $4\frac{1}{4}$ins.

Briefly described, the truck is more or less an ordinary chassis to which is attached the armour plate, and this extends on all four sides and over the bonnet in front. In the back there is a door, and, just above, a long narrow slit opening with a hinged flap cover. In the side of the body a small opening is cut as a window with a sliding cover actuated from inside the car. The driver looks out from a slit opening in the front similarly covered with a hinged flap.

Gun Turret

On the top of the car there is a revolving gun covered with armour plate.

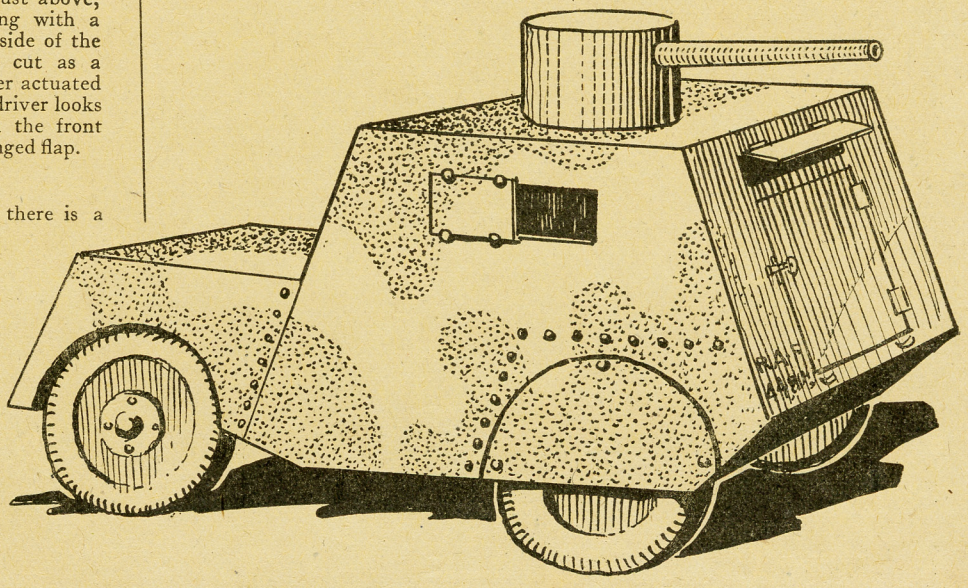
In the actual truck, of course, the top of the dome of the gun turret is open so that the gun can be manipulated from within. In our model the turret is made with a closed top just as the actual thing would appear when protected by a weather-proof cover.

Commence with the building of the main floor and its two uprights (see Fig. 1). The dimensions of the floor are given in Fig. 2, and may be set out direct on to a piece of $\frac{1}{8}$in. wood before the necessary cutting is done with the fretsaw.

Next cut the two uprights to the figures given in Fig. 1. These pieces are of $\frac{1}{4}$in. fretwood or $\frac{3}{8}$in. thick deal. Both uprights are alike in height, but the rear one is narrower as it fits between the openings cut for the rear wheels.

Four axle supports are cut and glued under the floor, and flush with the edge of the wheel recesses.

In making the "armour" it would be best to make that for the front and rear first. The front section is a plain piece $2\frac{5}{8}$ins. square, and on it must be drawn the driver's "peep-hole." The back section measures $2\frac{3}{8}$ins. by $2\frac{5}{8}$ins. wide, and on this again must be drawn the door and the slot-window above.



Dimensions for the door are given in Fig. 3. In Fig. 4 the measurements for the side sheeting are given, and two pieces may be easily cut from this.

Marginal strips for gluing to the front, rear, and roof sections must be allowed for on three edges of each side sheet. These margins need only be about ¼in. wide and clipped at their ends to an angle to fit on to the other sheets. The roof should

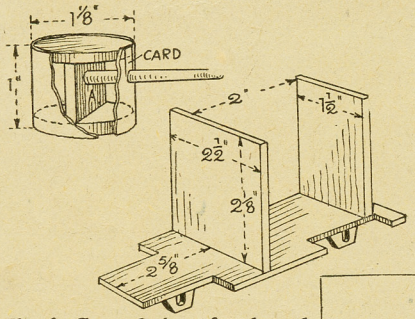


Fig. 1—General view of body and gun turret construction

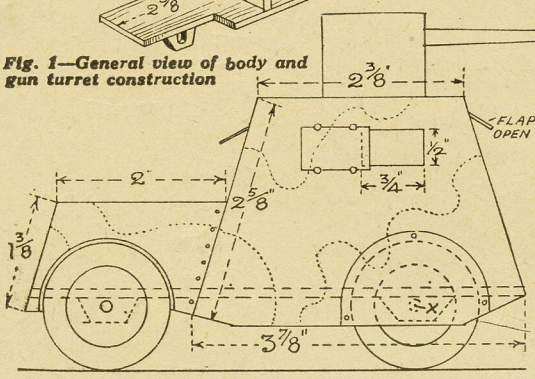


Fig. 4—Side view with dimensions and camouflage lines

be of good stout card measuring 2⅝ins. by 2⅜ins.

When all the "seams" have been glued up, tiny blocks of wood (say ¼in. square in section and 1in. or so long) may be glued in the angles to give added strength. The bonnet covering may be angled up from one sheet of card to the measurements given in Fig. 4. The dotted lines in the plan at Fig. 2 are taken as a guide for shape and size.

The front covering the radiator should be pinned to the floor, and the top back edge glued to the front sheeting of the body, gluing blocks again being added wherever possible.

It must be noted that the bonnet covering must be cut away to the circle of the wheels to let these appear when they are fixed on their axles. The dotted lines surrounding the plan of the floor in Fig. 2 denote the card covering.

The Gun

The gun is made as shown in the upper detail in Fig. 1. There are two discs of wood about ¼in. thick first to be cut, and a square of the same thickness wood cut to link them together as shown at A. In the centre of the latter piece, a hole must be cut or drilled to receive the end of the gun which is later glued in.

Now with a strip of card 1in. wide, form the drum-like turret by first applying glue to the edges of the discs, and then adding the card. Stretching it round to hold close to the disc Make the gun from a piece of round rod ¼in. diameter, tapering it off slightly towards the muzzle and boring a hole ¼in. deep or so in the small end.

Make a ¼in. hole in the card of the turret opposite to that in the cross

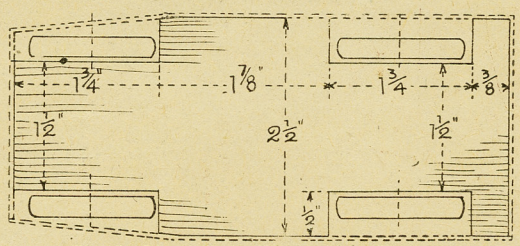


Fig. 2—Plan of wheel base with dimensions

piece A, push the gun through and glue it into the hole. The total length of the gun is 2¼ins.

After the wheels have been fitted the gun is glued to the roof of the body. Take care to note that it is kept to one side and not centrally on the roof. See its position from Fig. 3. Four wheels are cut from ¼in. wood 1½ins. in diameter with holes drilled centrally ⅛in. diameter. Cut off two lengths of ⅛in. wood 2⅛ins. long for the axles.

For the front pair of wheels, first glue one of the wheels to the end of the axle. Then push this through the bearers and glue on the opposite wheel. Smooth running is assured if thin metal or celluloid washers are added between the inside of the wheels and the chassis or floor.

Fixing Rear Wheels

Fixing the rear wheels is a little different. First find out where the centre point of the axle comes on the outside of the card (as X in Fig. 4). From this centre describe an arc on the card with compasses set to ¾in. radius.

Now cut along this line with a sharp pointed knife or a razor blade. Having done this on both sides of the body, insert the axle and fit the wheels on in a similar manner to the front wheels. Form two card cover plates to go on outside these rear wheels. With the compasses set to ⅞in. radius, describe two circles on stout card and cut these out with scissors.

Holding one of these in place against the body of the car and immediately over the circular wheel opening, proceed to mark in pencil the lower outline of the side. Cut to the lines thus made and finally glue the cover pieces over the opening and lapping on ⅛in. all round.

Painting

The bolts representing the real fixing may be painted on after the camouflage painting has been finished. The inner portions of the wheels should be painted black, with "tyres" painted on in grey.

The whole body and the bonnet included should be coated the standard camouflage brown, the patch-

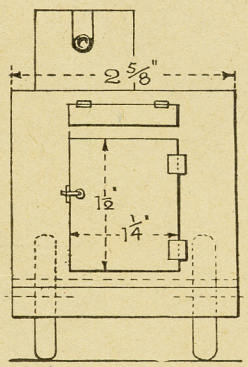


Fig. 2—End view showing door plate

work effect being added afterwards in blue-green. The window shutters on each side of the car, may be formed, from card and made to slide behind the heads of fine fret-pins or tacks. Little squares of ⅛in. wood should be glued on inside the body to take the points of the tacks.

The gun should be painted dark grey, and the turret green to represent the waterproof covering. The door on the back may be outlined in ink together with its hinges and the hinges of the flap above the door.

Any housewife will find the advantage of having
A CINDER SIFTER

AS national economy demands we should save as much fuel as possible, a cinder sifter is a necessity. A useful form of sifter is illustrated, having some advantage over the conventional sieve. It can be carried and used at the grate itself, where the sifting can take place.

The cinders can then be tilted on to the fire or in a coal box and the unwanted ashes carried away in the box to be deposited in the dustbin. There is little dust and no waste.

Some deal board, ½in. thick, can be used for making this box. Other thicknesses of wood can also be used, but allowance for extra thickness should be made when necessary, in the dimensions as those given are for ½in. thick timber only.

In Two Parts

The box, by the way, is in two parts, the lower one being the ash box and the upper the cinder sifter. Fig. 1 shows the lower, or ash box. Cut the parts to the dimensions given and nail and glue together. Make a firm job of it, using 1¼in. cut iron nails instead of the more usual wire or oval nails. They hold better.

At the front and in a line with the sides, saw out the slot shown in the centre. At the rear a handle is to be fitted. This is a piece of ½in. by 1in. wood. A notch is cut out to receive it so that it lies in level with the top edges of the rear end of the box.

Let it project inside just 1in. and there nail it to a piece of wood, slightly tapered, and itself nailed to the rear and bottom of the box, as shown in inset.

The Sifter

For the cinder sifter, first cut the parts of the three-sided frame shown in Fig. 2. Note the notch cut in the rear end, as in the box below, this is to receive the handle, or rather one of them, of the sieve. Now, from a piece of ½in. thick board cut the sifter frame shown in Fig. 3. The width of this (not shown) is the same as that of the frame, i.e. 8ins.

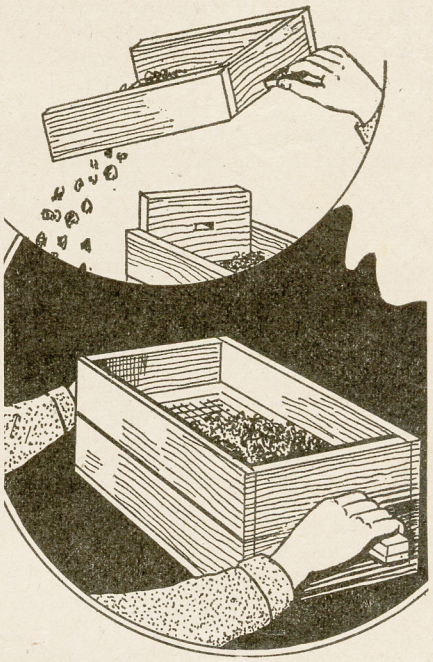
Now nail and glue the three-sided frame together, fit the sieve frame inside, rear handle in the notch, and nail that in. See that the front handle can fit in the slot cut in the ash box. Let the glue harden, then remove the sieve frame for fitting it with the wire mesh.

Two Meshes

Two kinds of mesh are shown in Fig. 4, A and B. Sample A is easy to make if enough wire is available. Almost any tinned iron, or brass wire can be used, within reasonable limits. Run a pencil line along the middle of the outside edges of the frame and bore the holes through with a suitably sized bradawl for the wires.

Those for the long ones should be bored just below the pencil line and those for the cross ones just above it. Bore at a distance apart of ⅜in. to make a ⅜in. mesh. Now straighten out the wires and draw them through the holes.

Those near the handle must be bored at an angle, as will be obvious when you come to do the job, so that though they are perforce 1in. apart outside (one each side of the handle) they will be the required ⅜in. apart inside.



Fixing the Wires

When this is done, at certain points where the wires cross each other, a spot of solder should be applied to keep the wires from shifting or being forced apart by large cinders wedging themselves between. Some thin wire twisted round them will also help.

Sometimes extra thick wires, say ⅛in. diameter, are added above and below the mesh to strengthen it. One above and one below would serve, both diagonally fixed and in opposite directions. A little trouble taken over this part will lengthen the useful life of the sieve immensely.

An alternative to the wires, when these are not available, is the ordinary wire netting, such as is used for making chicken runs. This can be bought (or used to) in ½in. mesh, but the commoner sizes are 1in. upwards.

Reducing Size

Obviously such size mesh would be useless for a cinder sieve, but if two, or with extra large mesh, three layers are laid over each other, the mesh can be considered reduced in size, as in B, Fig. 4. Just arrange the layers of netting in the most convenient way to get the desired result and tack across the frame.

Now return the frame in place and there secure it. Such a sieve will not give the long life of a wire one like A, but will serve for a while and is easily replaced when worn.

Finishing Details

Give the woodwork a run up with glasspaper. The handles should have their sharp edges rounded off a little to give a comfortable grip. Then the completed box can be left plain, ready for use, or given a coat or two of varnish to look more pleasing. Such a box as this is light to carry about the house.

The ashes, etc., from the grate are emptied in the sieve and the box gently shaken for the ashes to fall through into the ash box beneath. Then the sieve part is lifted off and the cinders emptied either into the fire, or in a coal box for use later on.

If you have to sift the cinders in the house it will be advisable to fit a lid to prevent dust flying everywhere.

It should be the same size as the box top and can be held in place by a door hook and staple at each end.

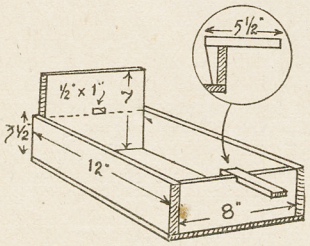


Fig. 1—Bottom box construction

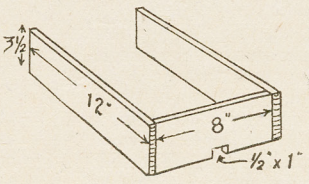


Fig. 2—The upper tray portion

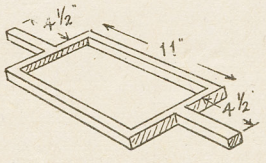


Fig. 3—Frame and handles

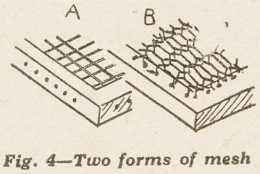


Fig. 4—Two forms of mesh

A novel way to make for use in the black-out an EMERGENCY TORCH

LAST year many people were without a comforting light during black-out hours because they could not obtain a No. 8 torch battery, or even a flat, 3-cell type. This year, while different torch batteries are more plentiful, it may interest you to know that 9-volt grid bias batteries are always easy to obtain and, as a result, that a good, cheap, long-life emergency torch can be made by incorporating the use of such batteries.

That being the case, one need never be without a torch again, this applying to cyclists, as well as pedestrians. Grid bias batteries, as you may know, measure 5ins. by

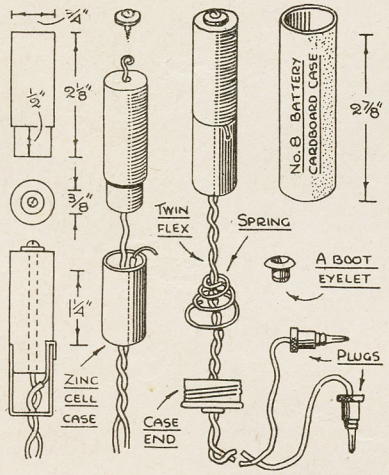


Fig. 1—Construction of dummy battery with other details

2¾ins. by 1in. They thus fit neatly into a jacket pocket.

A dummy form of battery is made to fit into the torch case, a length of ordinary twin flex leading from the contact points out through the base of the case, wireless plugs being fixed to the wire ends for connecting to the battery sockets. The finished article is shown (minus a battery) at Fig. 3.

Naturally, the battery means a slight bulge—and weight—in one's pocket, but that is inevitable and the idea gets one out of a rather perplexing difficulty. The emergency torch can be used just as easily if one wears an overcoat. If a light rain-coat, or waterproof, is worn, so much the better, for the open pocket slits enable the battery to be carried in a jacket pocket, or hip pocket, the torch being carried in the rain-coat pocket in the usual way.

The Dummy Battery

The dummy battery is really a contact holder. To make one for a No. 8 battery torch case, cut a ⅛in. deep shoulder at one end of a 2⅛in. length of ¾in. dowel (see Fig. 1). The shouldering is made to fit into an empty zinc cell (removed from an exhausted No. 8 battery).

An ⅛in. hole, as indicated by the dotted lines, is bored down the centre of the wooden plug. You now need an 18in. length of twin flex (the usual red and black stuff), one end of which is threaded through the plug hole to come out at the top, following which the end is bared, twisted into a small loop, and a connection made by screwing a small brass washer to the top.

The second wire is cut a few inches shorter (the end must be about ½in. above the plug shoulder), bared about ¾in. and the zinc cell pushed over the opposite ends of the wire, after drilling a hole in its base. Note how the free, bared end of the wire is bent over the cell rim so that a sound connection is made when the cell is forced up against the shoulder (see sectional view),

The Spiral Spring

Proceed by threading the spiral spring belonging to the torch case over the flex wire, as shown. The bottom of the case is prepared by drilling a ¼in. or 3/16in. hole in its base, dead in the centre.

To prevent any chance of the sharp edges fraying the insulation around the wires, fix a boot eyelet into the hole, keeping the serrated edges to the inside. An old shoe, or boot, provides suitable eyelets that can be opened out, put into the hole, then the serrated edges turned over with the rounded end of the nippers.

Having threaded the flex wire through the eyelet, stick the spring down inside the base of the case, whereupon the dummy battery is insulated by fitting the old battery cardboard casing over it. The dummy battery is then inserted into the torch case and the bottom screwed on.

Voltage and Bulbs

Fix wireless plugs to the free ends of the wire, this completing the work. If you use a 2.3v. bulb, plug in at not more than 3 volts ; if a 3.5v. bulb, plug in at 4½volts and keep moving the plug to the next fresh socket when the light appears to be getting dim.

On no account plug in at more than the voltages stated, otherwise you are liable to fuse the bulbs. It is only when the voltage has become rather weak, with use, that a fresh socket is sought, this bringing the voltage up to the maximum strength of power again to which the bulbs can be operated.

To make a dummy battery for a flat flashlamp case, get a piece of wood 2½ins. by 2⅜ins. by ⅞in. The side edges are rounded with a plane to resemble the battery used (see top view at Fig. 2).

Flat Flashlamp Cases

Make two contact arms from thin, springy brass (the arms from an old battery can be used), these being bent to shape and drilled for screws, as detailed. A ⅛in. hole is bored down the centre of the wood block.

Screw the contact arms to the top of the block and bring the twin flex wire through the hole. Bare the ends, then slacken the screws a trifle, put the wire ends beneath the black and tighten up the screws. Be sure that the ends of the wire are not bared too much so that they actually touch each other ; that would cause a short-circuit.

Therefore, to be on the safe side, bare the ends of the flex as little as possible. The wire strands could, as a precautionary measure against the wires being pulled away from the contacts owing to sudden jerks, be wound around the contact screws at the underside of the contacts.

The bottom of the flashlamp case is treated in the same way as applied to the torch case, then the wireless plugs attached to the flex wire. There

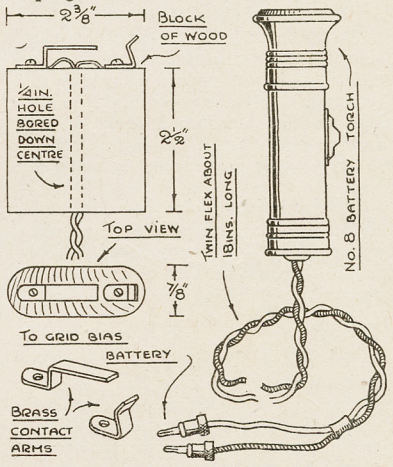


Fig. 2—Dummy flat battery

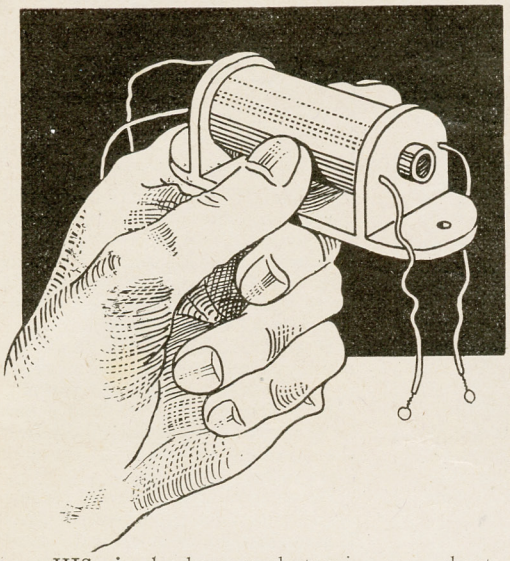
Fig. 3—The finished torch

is no need for a cardboard in order to insulate the dummy battery.

Batteries other than grid bias ones, can be used, as you will realise. However, the idea outlined can be easily applied to any size of torch. So, considering the idea from all angles, you should be able to adopt some form of your own, on much the same lines, according to the type of torch case in your possession.

So far as cyclists are concerned, the flex wire could be longer so the battery could be carried in the saddle bag. The idea is especially ideal if a tail light is wanted.

How the home radio enthusiast can construct a MIKE TRANSFORMER



THIS simple, home-made transformer is a device that will interest readers who have constructed a "home broadcasting" microphone in which carbon granules are used, this type being known as the "transverse current" type.

The output from such microphones is rather low, so a transformer is essential in order to amplify it or, in other words to "step up" the output. The transformer does so according to its primary and secondary windings, the usual ratio being 100 to 1 for good, sensitive results.

A "Step-up" Transformer

A microphone needs a "step up" transformer. The variation in current set up by the sound waves striking the diaphragm enters the primary winding and is increased by the secondary winding. The "mike" is thus more sensitive and efficient.

The transformed current, flowing to the main amplifier, a wireless set, requires less volume. The main point, however, is that the mike itself has been made super-sensitive.

A transformer, fortunately, is comparatively easy to make, providing one exercises patience and care. The model illustrated at Fig. 1 is designed as an independent unit, but it could be made as a "spool" only so it can be more readily fitted within a microphone base.

Microphone Parts

If you desire a "spool" transformer, it is only necessary to cut out two circular end pieces. We shall however, describe the "stand" type. This means cutting out the end pieces to the shape shown, including the base piece, all three being detailed at Fig. 2.

When marking out the end-pieces, be sure to letter one "P" and the other "S" to avoid confusion in respect to the primary and secondary windings. Note that the coil wire holes differ slightly in position. Drill them only in these positions.

You now need a suitable iron core. This is a piece of (preferably) soft iron rod ¼in. in diam. A piece of ¼in. diam. iron carpet rod or a piece of a heavy 6in. wire nail would serve; if 5/16in. thick, so much the better.

The iron core must—despite the fact that you will employ enamelled coil wire—be insulated. This is done by means of a strip of paper which is cut 2⅜ins. wide by about 10ins. long. Glue, or paste, the paper strip around the iron core until you make a casing ⅜in. in diam.

Adhere the end pieces so their tenons fit neatly into the mortises cut in the base (see side elevation at Fig. 4). You should allow the glue to set before removing the end pieces from the base; the latter helps to keep them in true.

The Primary Winding

For the primary winding, a fairly thick wire is used. The wire for the secondary winding is *half* the thickness. Less wire is used in the primary; more is wanted in the secondary.

To simplify matters, we give you the weight of the primary wire and secondary wire. This saves having to count the number of turns required for each coil; it is only a matter of winding it on.

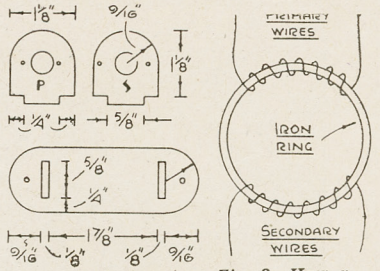


Fig. 2—End pieces and base

Fig. 3—How a transformer works

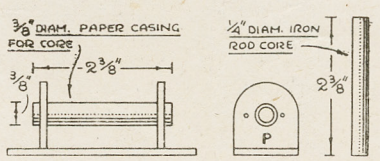


Fig. 4—Side elevation and end view

In making a test model, the writer used 1oz. No. 18 S.W.G. enamel-covered wire. For the secondary winding, 2ozs. of No. 40 S.W.G. enamel-covered wire. Thus, the secondary wire was about the thickness of a human hair, the primary wire being roughly double that thickness.

You will also require four pieces of "lead in" D.C.C. wire of about No. 28 gauge. The length is 6ins. These wires have to be connected to the ends of the enamelled stuff, as shall be explained.

To begin the primary winding, bare the end of the wire, including the end of a lead-in wire. Loop the bared ends firmly together and cover with a strip of glued paper (see detail at Fig. 5).

The First Turns

Remove the base from the work. Insert the D.C.C. wire in the hole nearest the core casing, as in the 1st stage. The paper covering is brought close alongside the end piece and the first windings started, as in the 2nd stage. You must, of course, keep the turns close and evenly together; we show them in an exaggerated form for clearness.

Having wound on all the primary wire, connect a lead in the wire to its end and insert through the second primary hole, as in the 3rd stage. The primary coil must now be covered with a strip of paper sufficiently long to encircle it.

By the way, while it is a hard business to do, try and keep the turns as neat as possible. Avoid "swellings" at the ends or in the centre. Note the winding direction moreover, for the primary direction is opposite to the secondary direction.

The Secondary Winding

The secondary winding is started in the same way as the primary

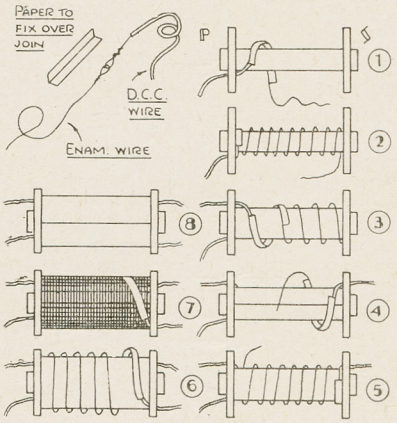


Fig. 5—Various stages of winding a coil

winding, excepting that you work from the opposite end of the work. The secondary winding is always more tiresome. It seems unending, but with care and patience, it can be done.

The chief trouble is in holding the transformer spool itself. Finger tips get in the way. The best plan is to insert a piece of ¼in. dowelling into the core casing so the ends project sufficiently for holding. The wire, which is—or should be—wound on wooden spools, should be fixed on its end with a nail so it revolves easily.

Avoid Kinks

When winding, kinks in the wire must be avoided. Being rather fine and delicate, the wire is easily broken. Do not use old, scratched wire, with kinks and knots in it. It will give more trouble than it is worth.

You should be able to pick up second-hand wire, on spools, in good condition. Most electrical junk stores have it in stock. It may be a case of using what you can get, but you are not tied down to the thickness of wire stated. One may use one thickness of wire throughout, but ratio of the transformer must be obtained.

Having completed the secondary winding, as shown in the 6th and 7th stages, the work is covered with a strip of paper, preferably leatherette paper. Glue the base to the work and form loops on the primary and secondary wires.

Testing the Transformer

To test the transformer, connect

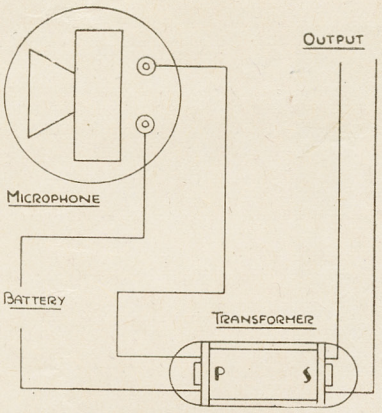


Fig. 6—A simplified circuit plan

it in series with a 4½ volt battery and a microphone. The output wires go to the pick-up terminals on the wireless receiver. The circuit plan is shown at Fig. 6.

Checking Faults

When held close to the loudspeaker of the set, a howling noise should be set up. If reproduction sounds muffled, tap the mike, as the carbon granules may have become "packed" and are thus not too sensitive. Make sure you connect the battery in series with the primary wires, otherwise you will hear little or nothing.

If reproduction is still weak, an additional number of turns may be required on the secondary winding. It is a simple matter to loop a new lot of wire to the first lot and continue the winding by about a hundred more turns.

On no account increase the voltage, as this does not give better results. It gives, instead, trouble, for it "pits" the carbon granules and electrodes in the microphone, thereby causing a noisy background in reproduction.

Details for making a WARTIME CANOE next week

A Hobbies Club Exhibition Effort!

HOBBIES Clubs are run by employees in many factories all over the country, and happy hours with fretsaw and woodwork tools provide pleasant relaxation among a large number of war workers.

An example of the good which can be done by such co-operative effort is illustrated here. The panoramic display was built by members of Schraders Hobbies Club, in conjunction with the firm A. Schrader's Son, in the Midlands.

At an exhibition held last year, a number of our designs were on view and many of them were afterwards sold in competitions for charity. We have already mentioned a Doll's House which raised £75 and no doubt by now this ambitious club has raised the £250 they set themselves out to clear by a certain date.

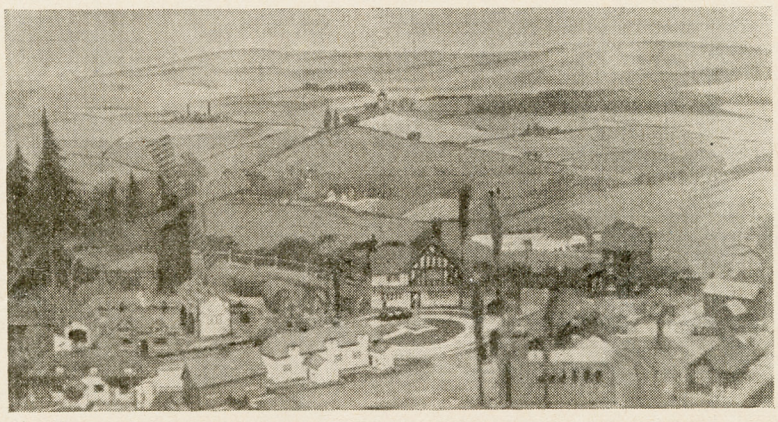
Models on Show

The picture is the "showpiece" of the exhibit—a Model village built to a scale of 4 mm. to 1ft. This was on a baseboard 3ft. 6ins. by 2ft. and incorporated a reduced edition of our Model Farmyard Design. Included in the village was church, post office, railway station, school, water mill, etc.

Among the other attractions were the following models from our designs—Westland Whirlwind, Aeroplane, H.M.S. King George V Battleship, Submarine, Country Inn, Model Farm, H.M.S. Exeter, Destroyers, H.M.S. Southampton, etc. Alterations and suitable additions which were made may be of interest to other readers who are anxious to make equally excellent exhibits.

The Submarine (Design 2450) was marked "Sea-Lion" (as it is the Shark class) because Lieut.-Commander Ben Bryant is in command of it and is in the news. This incidentally won First Prize. Design No. 104 Spl. of the Country Inn was also altered.

The craftsmen furnished every room—two bedrooms and dining room upstairs, reception office, lounge bar and small bar with barrel stores downstairs. A pair of 15th century brass gates were made and hung across the centre arch. The whole baseboard was covered with grey brick-paper and a small white posted fence finished the model off.



Some interesting ways in which the Camera can

PICTURE SIDE-LINES

RECENTLY an article appeared in Hobbies Weekly giving views on photography as a career, and it is good to know that many readers were interested in it. Since that was written there have been many other instances brought to our notice of the application of photography in industry and commerce and other spheres of importance.

It is unfortunate that films and papers are at times difficult to get, but this will not be always the case, and, we all hope the restrictions will be completely removed before this year ends.

Meantime everyone knows that very large quantities of both films and papers are required for war services and are really necessary if we want to win the war.

Engine Assembly Aids

Those who are fond of handicraft work or trying to understand machinery will appreciate after reading this article, the fact that your camera can help you quite a lot when it comes to the "taking to pieces" and then reassembling the parts in their right and proper order. If you were told that photography plays quite an important part in the training of men and boys in the intricate and almost "mysterious" works of precision machines you might be surprised.

The assembled machine is photographed at various angles or positions before certain parts are removed. When a number are taken away that section of the machine is again photographed as is also the group of parts. A further number of parts are removed and again the photographing is repeated.

Theory and Pictures

This goes on till the framework of the machine is denuded of all its gadgets. Each photograph of a group of parts is carefully marked with identification letters and figures and is placed in the drawer or tray containing the parts. The time comes for a lesson on assembling and the last group to be taken from the machine is tackled first, for obvious reasons and the learners have to replace each in its correct position. At the same time they are instructed in the particular work or object of that part and so the instruction and reassembling goes on and the learner gains proficiency.

This is given at some length with the idea of showing you how to learn something about clocks, watches, engines, motors or any other mechanical contrivance. Or even when dismantling some intricate fretwork piece containing several parts.

It is certainly a quick method of acquiring some knowledge regarding complicated machinery which may prove very useful at some time—it may be the sewing machine at home, the typewriter or adding machine in the office or a piece of plant in the factory.

Pictures in Engineering

Rolls Royce were recently exhibiting some of their world-famous aero and motor engines and it was a great help to those who visited the exhibition to read by means of photographs of the parts or of the blue prints how each section functioned

How very valuable a photographic collection of aeroplanes would be at the present time, if it included the whole series from the very first model. We are at the commencement of many important changes in their construction for civil aviation. Why not make a start now to make photographic records? Make your own models, rather than take a camera to an aerodrome (which would get you into trouble)—but when the war is over there will be many chances of photographing Spitfires, Fortresses, Mustangs, and all the others of our R.A.F. Such a collection will become more and more valuable as time passes, more so possibly than a collection of foreign stamps.

The writer is very fond of photographing trees at all and any time of the year. Do you know the names of many trees? Could you tell a piece of oak by the grain or show the difference between a piece of birch and one of sycamore. You would be much more interested in woodwork, furniture, carving, etc. if you could.

The method to follow is this. First photograph the tree, then a full leaf—

(*Continued top of next page*)

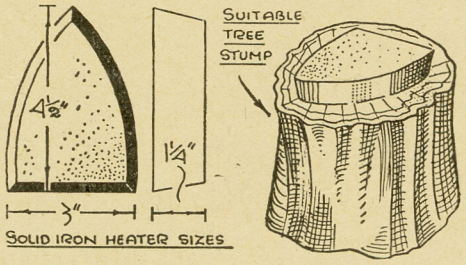
A home-made Anvil

ANVILS are often badly needed when riveting metal parts together, flattening out wire, etc. Apart from all this, including nail-clinching, an anvil means a strong, sound support to all nailing jobs.

Quite a good, useful little home-made anvil is shown which can be made up easily. The main requirement is a solid iron old-fashioned, heater approximately the size and shape shown. It is imperative, too, that the thickness is the same—not thinner, as the metal might easily crack.

A thickness of 1½ins. is the general rule. The heater iron we are concerned with is the one used in the old-fashioned, fire-heated, ironing boxes dropped into an opening at the rear end.

This loose slab of metal is mounted on a strong, durable support, such as a piece of tree stump. A length of fire log of suitable diameter would be ideal.



SOLID IRON HEATER SIZES

As it is almost impossible to drill screw holes in the iron slab in order to secure it to the tree stump, one must make use of a certain feature in the shape of the irons, this being their wedge shape (see side view).

Place the iron on the log, centre it, then mark its outline with a pencil. It is, of course, the smaller side of the iron that is set on the wood. When marked, a trench is chiselled out to a depth of ½in.

It is wise to keep the pencil lines showing, so when the iron is set over the trenching, it can be hammered down to fit tightly, using a mallet for the purpose.

The trenching is best carried out with the aid of an 1in. or 1¼in. centre bit. Bore a series of holes with same within the lines and also about the centre of the shape. The rest of the waste is removed with a chisel, holding it so the bevel rests on the wood at a workable angle for malleting,

Another plan to ensure a level, true fit is to heat the iron red hot and set it over the trenching, pressing it well down with a poker. Have a tin of water nearby in case the wood catches fire. A sprinkling of water should suffice to put out smouldering or flames.

Naturally, if this plan is adopted, the fitting should be done outside in the open air, for there is bound to be some choking, blinding smoke. If you possess an ordinary solid, flat-iron, with a handle attached, it is possible to bore a suitable recess, or aperture for it so the back of the iron rests evenly on the wooden support.

Continued from previous page)
also a bud if you wish—then get a small piece of wood as used for your woodwork and which is from the same class of tree and smooth it down, bringing out the grain as much as you can. Then photograph it.

From Tree to Board

You now have a full illustration of the three essentials for naming or knowing that tree ; but you are not finished. Graining, as used in house and furniture decorating, is a well-paid branch of the work. It takes a long time to learn, but if you have photographic records of the natural grain it should be easy to transfer that " design " to a door or panel of a firescreen, etc.

Further, that collection of negatives can form the basis of a most interesting and valuable lantern lecture to be given to schools, .scouts, guides and other similar clubs in the locality.

Suitable Subjects

In another direction, that of wood carving, a camera can prove a most excellent assistant. Some of the best carving is to be found in our Cathedrals and Old Parish Churches. You have only to study Pulpits, Bishops' Thrones, Screens, Choir Stalls and Pew Ends as well as some tombs and monuments to recognize what beauty lies dormant in a baulk of timber and awaits the hand and eye of the craftsman.

Photographs of some of these beautiful specimens can help you in your first lessons with chisel and hammer more than you can imagine.

Here, then, are a few thoughts for you to have in mind until such time as you can purchase a film at any time and anywhere.

Printed by BALDING & MANSELL, LTD., London and Wisbech, and Published for the Proprietors, HOBBIES LTD., by HORACE MARSHALL & SON, LTD., Temple House, Tallis Street, E.C.4. Sole Agents for Australia and New Zealand : Gordon & Gotch (Asia) Ltd. For South Africa : Central News Agency Ltd. Registered for transmission by Canadian Magazine Post.